

FARP OPERATIONS



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LESSON PURPOSE

To familiarize the student with the planning and employment of a Forward Arming and Refueling point (FARP) in support of aviation operations



ENABLING LEARNING OBJECTIVES

- Without aid of references, state the mission and objectives of a FARP
- Without aid of references explain the planning considerations of a FARP
- Without aid of references explain the techniques of employment



ENABLING LEARNING OBJECTIVES

- Without aid of references, describe the procedures necessary for movement of aircraft through a FARP and various layouts

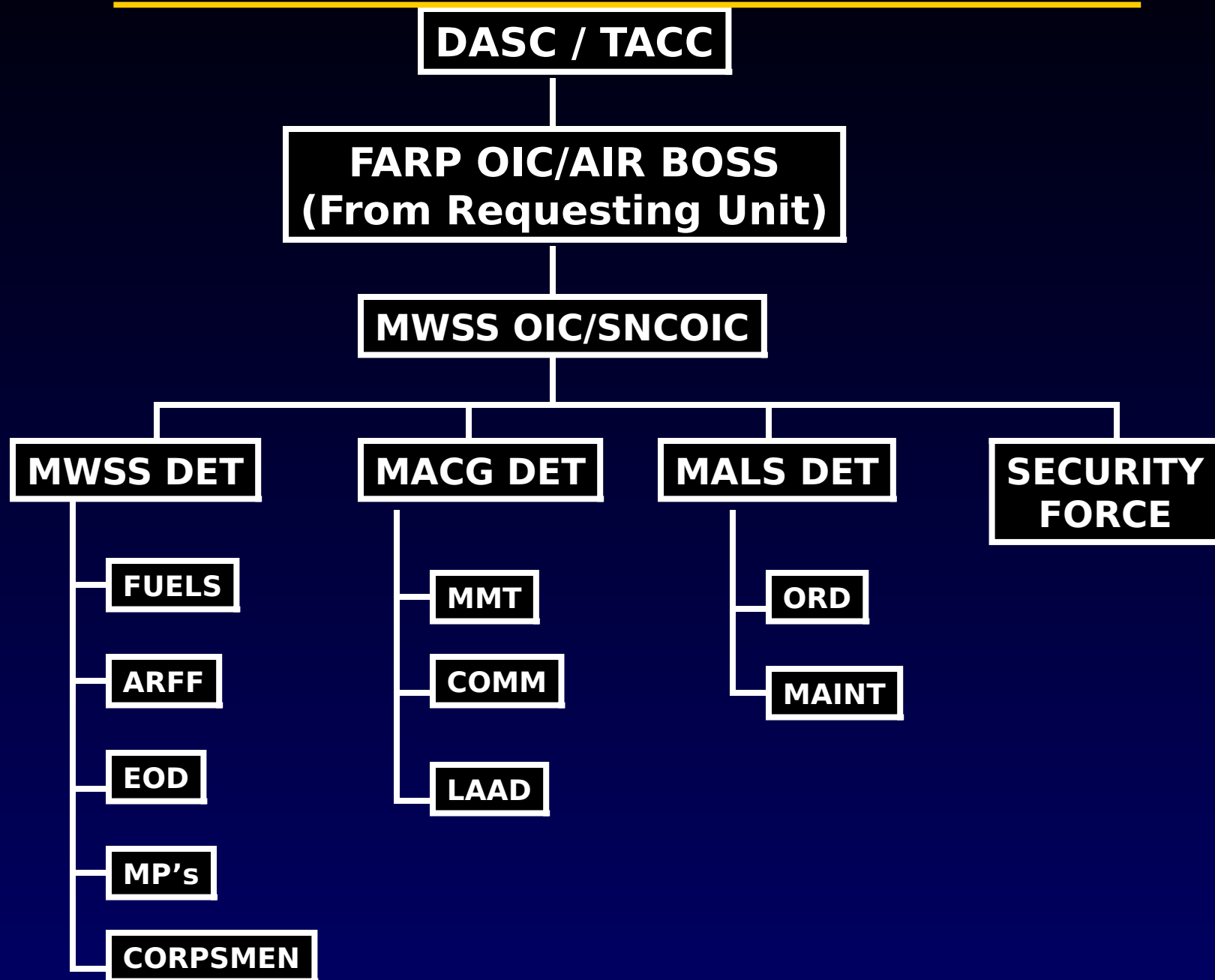


FARP OPERATIONS

- Not an AGS exclusive operation
- FARPs should be considered an aviation logistics operation and therefore a responsibility of the requesting squadron
- Aviators are ideal for the FARP OIC
- MWSS ideal for second in command



FARP ORGANIZATION





FARP MISSION

- To provide fuel and ordnance
- Size varies
 - Mission
 - Number of aircraft
- Temporary and transitory
- Specific duration and mission



FARP OBJECTIVES

- Minimize response time
 - Reduces flight time to/from refueling and rearming points
- Decrease turn around time
 - Reduces the refueling and rearming times



FARP OBJECTIVES

- Hot refueling
 - Engines operating
 - Closed circuit refueling (CCR)
- Cold refueling
 - Engines shut down
 - Open port or (CCR)



FARP OBJECTIVES

- Assaults
 - fuel/arm = 20 to 30 minutes





FARP OBJECTIVES



- Attack
 - fuel/arm = 45 to 50 minutes
 - hot uploads with static layout = 12-15 minutes



TACTICAL OPERATIONS PLANNING CONSIDERATIONS



- Distance to/stability of FEBA
 - 17-25 Kilometers
 - out of enemy artillery range
- FARPs required time-on-station
FARP security requirement



PLANNING CONSIDERATIONS (CONT)

- Distance between FARP and nearest class III and V supply points
- Availability of adequate road networks
- Type of terrain
- Coordination with logistics
- Quick turn around of A/C and logistical support
- Cover and concealment (natural / artificial)



PLANNING CONSIDERATIONS (CONT)

- Command and Control requirements
 - Internal (VHF)
 - MWSS responsible
 - Command and Control inside the FARP (FARP Control net)
 - External (UHF/VHF)
 - MACG responsible
 - FARP OIC/Air boss
 - Pilots and higher H.Q. (TACC, DASC)

TECHNIQUE OF FARP EMPLOYMENT





FARP MOBILITY

- **CONFLICT WILL DETERMINE THE REQUIREMENT FOR MOBILITY**
 - **THE HIGHER THE THREAT THE GREATER THE NEED FOR CONSTANT MOVEMENT OF FARP**
 - **MULTIPLE SITES= increased responsiveness**
 - **TIME AT FARP SITUATIONALLY DEPENDENT**
 - **IF THE FARP IS ROVING A NEW FARP MUST BE OPERATIONAL PRIOR TO OLD FARP BEING TORN DOWN**
 - **HIGHLY TRAINED TEAM SHOULD BE USED**
 - **MOVEMENT SHOULD BE ACCOMPLISHED BETWEEN OPS OR WHEN A LULL EXISTS**



FARP EMPLOYMENT

- **Truck mounted or mobile**
 - Most common method
 - Sufficient planning time needed
 - Availability of road networks
 - Need for greater logistical support
 - For specific mission and a longer duration



FARP EMPLOYMENT



- **AERIAL DELIVERED FARP**
 - **Require rapid emplacement**
 - **CH-53/CH-46**
 - **Greater distance**
 - **Lack of roads/time/terrain**
 - **Aerial resupply will be limited**
 - **Greater probability of detection**



FARP EMPLOYMENT



- Air/Ground emplacement
 - Rapidly emplaced
 - Resupply will be needed
 - Continued operations





FARP EQUIPMENT

- Helicopter Expedient Refueling System (HERS)
- M-970 5,000 gallon Semi-Trailer
- Aircraft Refueling Capable (ARC)
- SixCon Tank Modules



HELICOPTER EXPEDIENT REFUELING SYSTEM (HERS)

- Expeditionary in nature
- Ideal for forward areas
- Primarily used for attack helicopters
- Limited fuel capacity for assault helicopter
- Helicopter transportable

HELICOPTER EXPEDIENT REFUELING SYSTEM (HERS)



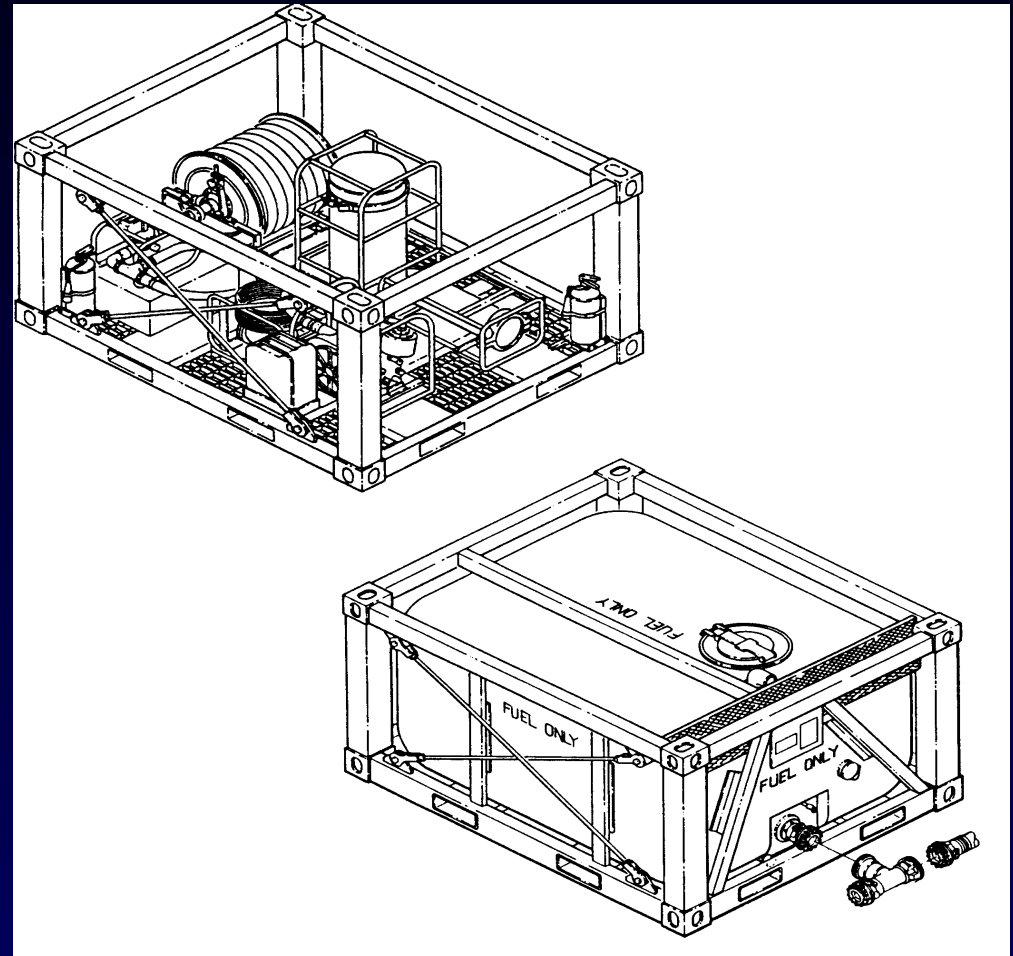
- Supported by eighteen 500 gallon collapsible drums
- Capacity of 9,000 gallons





SIX-CON

- Self contained pump unit
- One pump module
- Five tanks
 - 900 gallons each
 - 4,500 gallon capacity
- Flexible





FARP PERSONNEL

- **FARP Control**
 - **FARP OIC/ Air Boss**
 - **Radio Operator**
 - **Corpsman**
 - **MMT**
 - **LAAD**
- **MWSS**
 - **Bulk-fuel Specialist**
 - **Motor Transport Operators**



FARP PERSONNEL

- Ordnance Personnel
 - I level (Hangs the ordnance)
 - O level(Makes the ordnance)
- Aircraft Recovery and Fire Fighting (ARFF)



FARP LAYOUT AND PROCEDURES





Typical FARP Layouts

- Standard Hot Attack
- Standard Hot Assault
- Cold Attack
- Hot Static



FARP LAYOUT

- Spacing between aircraft
 - Normally plan for a CH-53
- Wind direction
 - Into the wind
- Vapor Collection / Drainage



FARP LAYOUT

- Ensure fire fighting equipment is in the immediate area
- Clear of loose debris
- No depressions or protrusions exceeding 10 inches
- Slope should not exceed 5 degrees
- Minimum soil disturbance
- Ensure visual landing aids are secure



HOT FARP LAYOUT

- Pre-Stage
- No director support
- Dearm ordnance
 - Large enough to accommodate a division or more
 - Well marked



HOT FARP PROCEDURES



- Refueling procedures
 - Director support will be available
 - Crew-chief, plane captain, or qualified personnel will
 - Hooks-up
 - Remain at nozzle / fire extinguisher until refueling is complete.
 - A/C will depart fuel point once cleared by FARP OIC
 - One A/C at a time thru FARP
 - First in, first out





HOT FARP PROCEDURES

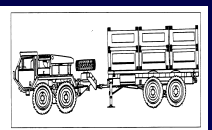
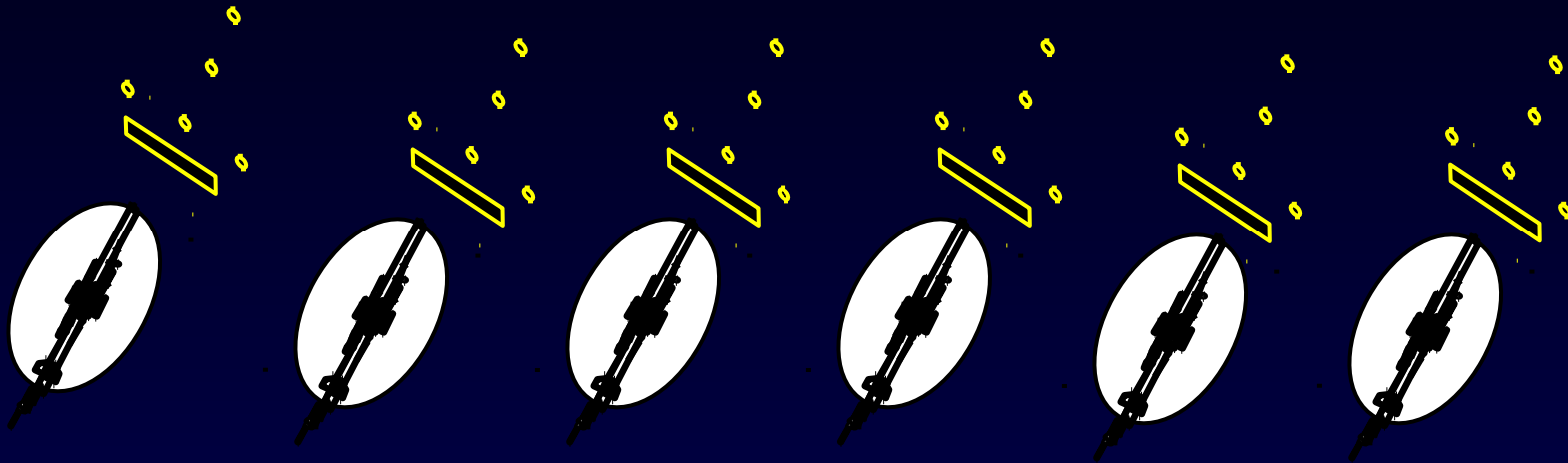
- Post-Stage
 - No director support
 - Large enough to accommodate a division or more of A/C and ordnance operations
 - Rearm/upload ordnance as required
 - Must be well marked



Cold Attack



Wave
off





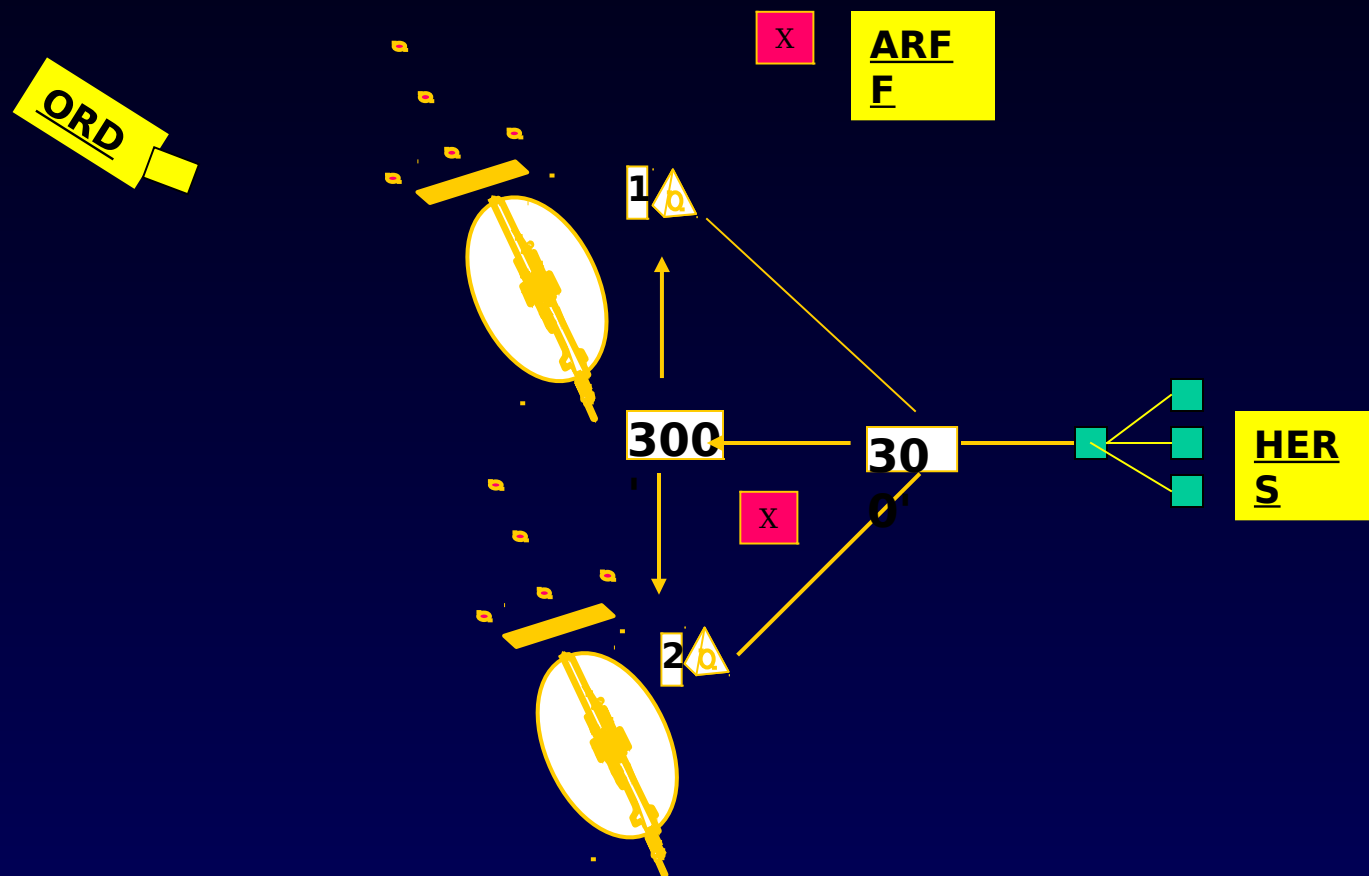
COLD FARP PROCEDURES

- Sequence
 - Land
 - Dearm
 - Shutdown
 - Fuel
 - Load ordnance
 - Start engines
 - Rearm
 - Depart





Static FARP





STATIC FARP PROCEDURES

- Sequence
 - Land
 - Dearm
 - Fuel
 - Load ordnance
 - Rearm
 - Depart





OTHER ASSETS

- **TACTICAL BULK FUEL DISPENSING SYSTEM (TBFDS)**



- **RAPID GROUND REFUELING (RGR)**



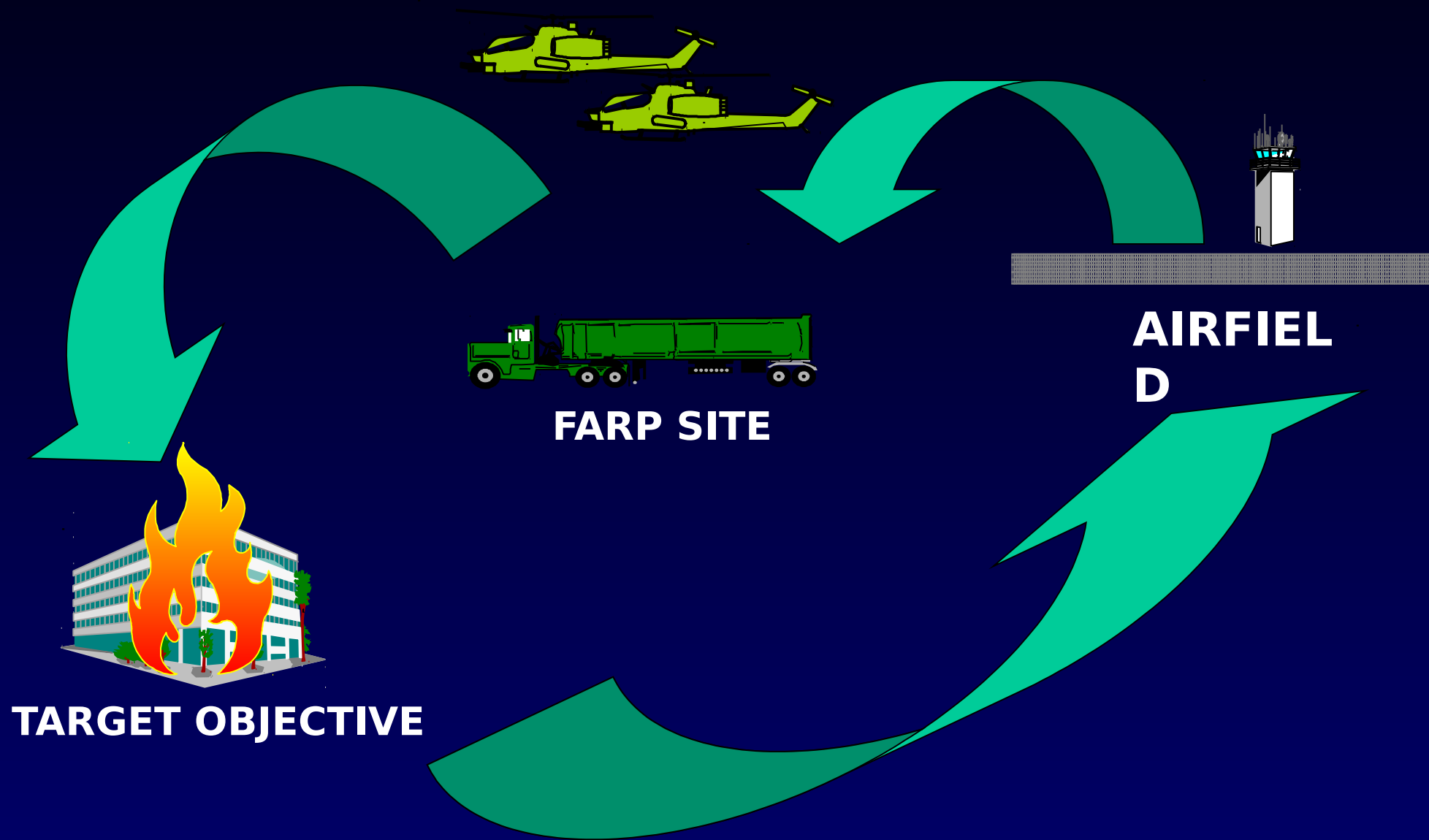
FARP ESTABLISHED

- Inbound route
- Return route
- Outbound route





FARP ESTABLISHED ON THE INBOUND ROUTE





INBOUND ROUTE ADVANTAGES

- STAGGERED TAKEOFF AND ARRIVAL
- ASSAULT FORCES PREPOSITION CLOSER TO OBJECTIVE AREA
- COMMANDER'S FINAL ANALYSIS
- PLAN FLEXIBILITY (DOWN A/C)
- A/C ENTER OBJECTIVE AREA WITH MAX FUEL/ORD
- FARP DOWN, BINGO HOME

INBOUND ROUTE ADVANTAGES (CONT)



- SECURITY FORCE AUGMENTATION
- FARP AS BINGO SITE
- FARP DETECTED, SCRUB MISSION



INBOUND ROUTE DISADVANTAGES

- IF FINAL COORDINATION DESIRED,
ASSETS MASSED AND SHUT DOWN
- AIRCRAFT SHUT DOWN TO CONSERVE
FUEL

FARP ESTABLISHED RETURN ROUTE



AIRFIELD
D



FARPSIT
E



TARGET OBJECTIVE



RETURN ROUTE ADVANTAGES

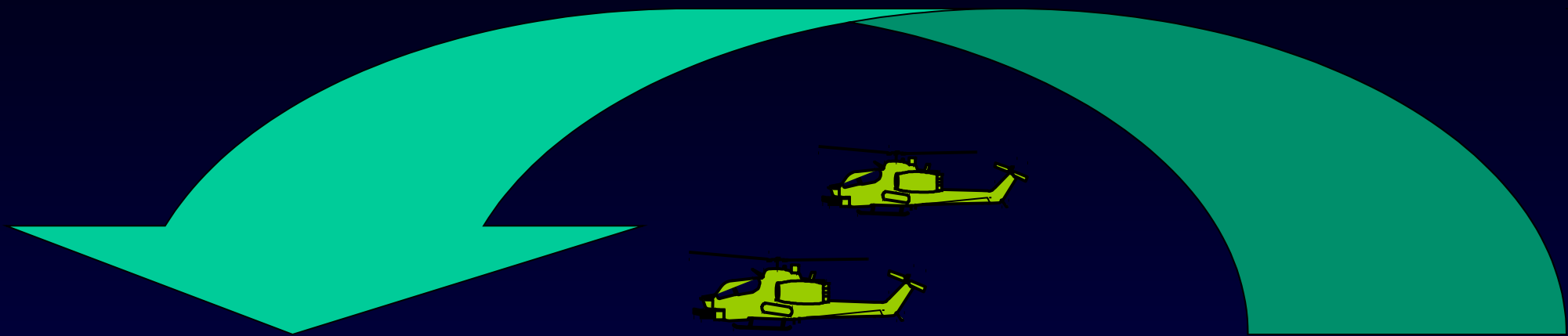
- OPPORTUNITY TO MAKE CHANGES TO PLAN PRIOR TO RETURNING TO OBJECTIVE AREA
- A/C REENTERS OBJECTIVE AREA WITH MAX FUEL AND ORDNANCE



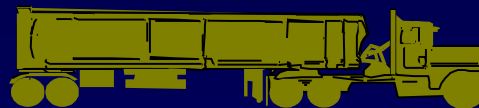
RETURN ROUTE DISADVANTAGES

- CONGESTION AND DELAYS IN FARP
- AIRCRAFT ATTACKED, FARP EASILY DETECTED
- FARP DESTROYED, NO FUEL

FARP ESTABLISHED OUTBOUND ROUTE



TARGET OBJECTIVE



FARP SITE



**AIRFIELD
D**



OUTBOUND ROUTE ADVANTAGES

- OPTION TO BYPASS FARP



OUTBOUND ROUTE DISADVANTAGES

- CONGESTION AND DELAYS IN FARP
- AIRCRAFT ATTACKED, FARP EASILY DETECTED
- FARP DESTROYED, NO FUEL
- NO SECURITY AUGMENTATION

FARP DEFENSE CONSIDERATIONS





FARP DEFENSE

- FARP defense based on threat
 - Air or ground
 - Weak or strong?
- Two types:
 - Ground defense
 - Air defense





FARP GROUND DEFENSE

- Organic personnel
- Embarked assault force
 - Limited use
- Reconnaissance Personnel
- Tactical Air Control Party (TACP)
 - Link with supporting arms



FARP GROUND DEFENSE





FARP GROUND DEFENSE





FARP AIR DEFENSE

- Low Altitude Air Defense (LAAD)
 - LAAD commander thoroughly briefed
 - LAAD commander located near FARP OIC
 - Times and or specific routes planned ahead
- Missile Engagement Zone (MEZ)
 - Not established within



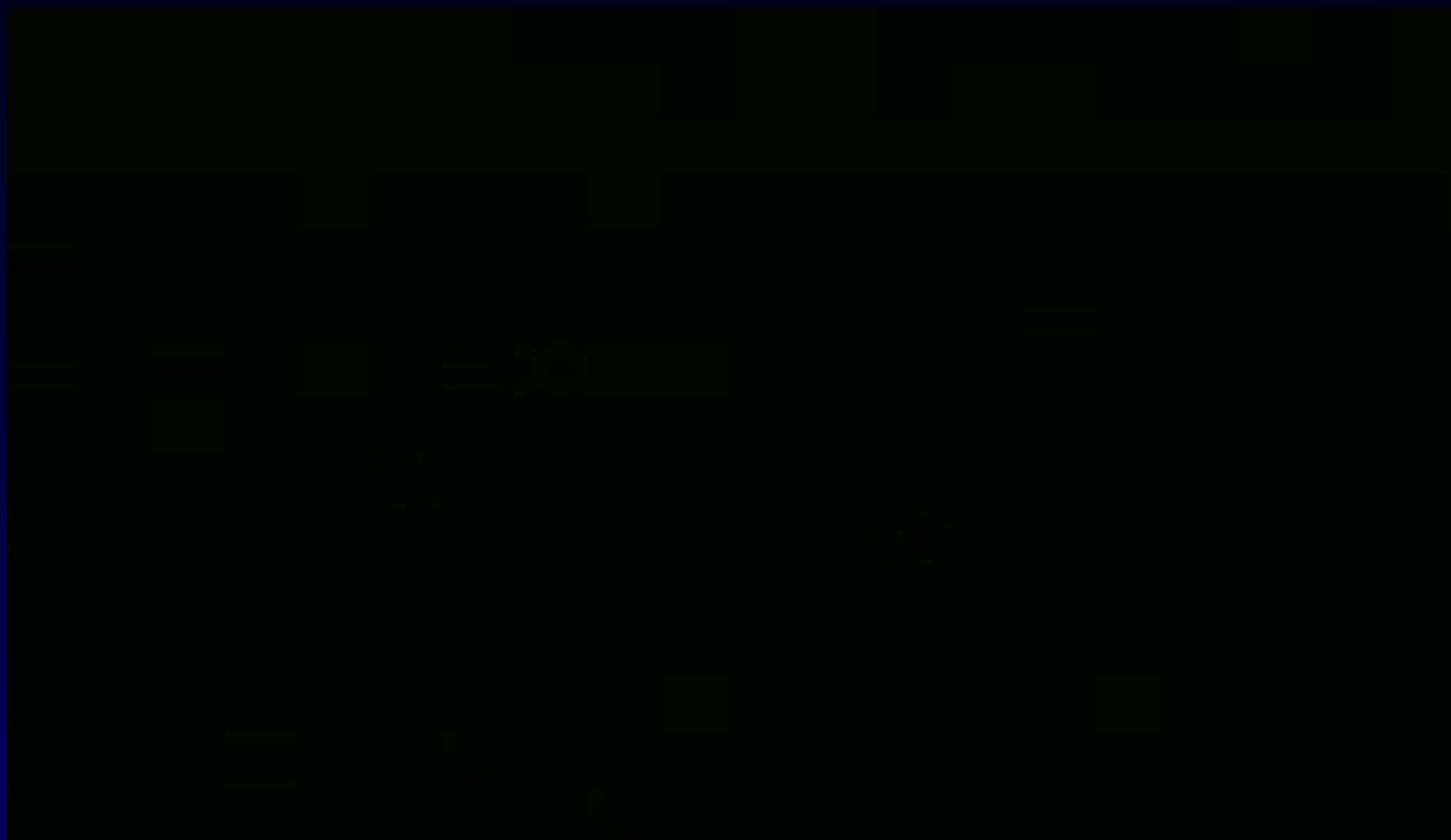
FARP AIR DEFENSE

- Close Air Support (CAS)
 - Helicopter or fixed wing
 - Planned well in advance especially during day operations





DEADLY ACCUACY





SUMMARY

- **Mission and objective of a FARP**
- **Advantages and disadvantages of FARP placement**
- **FARP planning considerations**
- **FARP defense**
- **Communication procedures**
- **FARP layout and procedures**



QUESTIONS?